We claim:

1. An adsorption composition which comprises copper, zinc and zirconium.

2. An adsorption composition as claimed in claim 1 which comprises copper in an amount equivalent to from 30 to 99.8% by weight of CuO, zinc in an amount equivalent to from 0.1 to 69.9% by weight of ZnO and zirconium in an amount equivalent to from 0.1 to 69.9% by weight of ZrO_2, in each case based on the total amount of the adsorption composition.

3. An adsorption composition as claimed in claim 2 which essentially consists of copper in an amount equivalent to from 30 to 99.8% by weight of CuO, zinc in an amount equivalent to from 0.1 to 69.9% by weight of ZnO and zirconium in an amount equivalent to from 0.1 to 69.9% by weight of ZrO_2, in each case based on the total amount of the adsorption composition, the proportions of the individual components totaling 100% by weight.

4. An adsorption composition as claimed in one of claims 1, 2 or 3, wherein copper is present in part in metallic form and in part in the form of copper(I) oxide and/or copper(II) oxide, zinc is present in the form of zinc oxide and zirconium is present in the form of zirconium dioxide.

5. A process for removing carbon monoxide from carbon-monoxide-containing substance streams by adsorption to an adsorption composition, which comprises bringing the carbon-monoxide-containing substance stream into contact with a copper-, zinc- and zirconium-containing adsorption composition.

6. A process as claimed in claim 5, wherein an adsorption composition is used which comprises copper in an amount equivalent to from 30 to 99.8% by weight of CuO, zinc in an amount equivalent to from 0.1 to 69.9% by weight of ZnO and zirconium in an amount equivalent to from 0.1 to 69.9% by weight of ZrO_2, in each case based on the total amount of the adsorption composition.

7. A process as claimed in claim 6, wherein an adsorption composition is used which essentially consists of copper in an amount equivalent to from 30 to 99.8% by weight of CuO, zinc in an amount equivalent to from 0.1 to 69.9 % by weight of ZnO and zirconium in an amount equivalent to from 0.1 to 69.9% by weight of ZrO_2, in each case based on the total amount of the adsorption composition, the proportions of the individual components totaling 100% by weight.

8. A process as claimed in one of claims 5, 6 or 7, wherein an adsorption composition is used in which copper is present in part in metallic form and in part in the form of copper(I) oxide and/or copper(II) oxide, zinc is present in the form of zinc oxide and zirconium is present in the form of zirconium dioxide.

9. A process as claimed in claim 5, wherein carbon monoxide is removed from a liquid propylene stream.

10. A process for removing carbon monoxide from carbon-monoxide- and oxygen-containing substance streams by catalytic reaction of carbon monoxide with oxygen to give carbon dioxide, wherein the adsorption composition defined in claim 1 is used as catalyst.

11. A process for removing carbon monoxide from carbon-monoxide-containing substance streams by reacting carbon monoxide with a copper(I)-oxide- and/or copper(II)-oxide-containing solid to give carbon dioxide, forming metallic copper, which comprises using the adsorption composition defined in claim 4 as copper(I)-oxide- and/or copper(II)-oxide-containing solid.

12. A process for producing the adsorption composition defined in claim 1, which process comprises the following process steps in said sequence:

a) preparing a solution of the components of the adsorption composition and/or of soluble starting compounds thereof;
b) precipitating a solid from this solution by adding a base;
c) separating and drying the solid;
d) optionally calcining the solid;
e) shaping the solid to give shaped bodies; and
f) optionally calcining the shaped bodies;

with the proviso that at least one of the two calcination steps d) or f) is carried out.

13. A process for producing the adsorption composition defined in claim 1, which process comprises the following process steps in said sequence:

a) preparing a solution of the components of the adsorption composition and/or of soluble starting compounds thereof;
b) impregnating a preshaped support with this solution;
c) drying the impregnated support; and
d) calcining the impregnated dried support.

14. A process for activating the adsorption composition defined in claim 1 before its use for removing by adsorption carbon monoxide from carbon-monoxide-comprising substance streams by treatment with a reducing agent.

15. A process as claimed in claim 14, wherein the adsorption composition is contacted with a hydrogen-containing gas.

16. A process for regenerating the adsorption composition defined in claim 1 after its use for removing by adsorption carbon monoxide from carbon-monoxide-containing substance streams, which comprises heating the adsorption composition to a temperature in the range from 50 to 400°C and/or passing a gas through a bed of the adsorption composition to be regenerated.